

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**



(19)

(11) Publication number:

61186387 A

Generated Document.

PATENT ABSTRACTS OF JAPAN(21) Application number: **60024998**(51) Intl. Cl.: **C07D491/056**(22) Application date: **12.02.85**

(30) Priority:

(43) Date of application
publication: **20.08.86**(84) Designated contracting
states:(71) Applicant: **mitsubishi chem ind ltd**(72) Inventor: **TAKEDA YOSHIYUKI
KAWASHIMA OSAMU
FURUKAWA SHIRO
OGINO YASUKAZU**

(74) Representative:

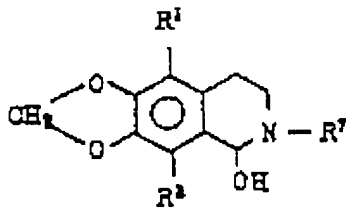
**(54) PRODUCTION OF
AMINATED PHTHALIDE-
ISOQUINOLINE**

(57) Abstract:

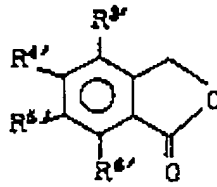
PURPOSE: The reduction of a nitrophthalide-isoquinoline with NaBH_2S_3 or LiBH_4 enables industrially advantageous production of the title compound which is used as a medicine without use of a metallic catalyst.

CONSTITUTION: A nitro compound of formula III, resulting from condensation reaction between a tetrahydroisoquinolien of formula I (R_1, R_2 are H, lower alkoxy; R_7 is lower alkyl) and a nitrophthalide of formula II (at least one of $\text{R}_3'\text{WR}_6'$ are nitro), is reduced with NaBH_2S_3 or LiBH_4 , preferably in an amount of 1.5W2mol to give the objective compound of formula IV (at least one of R_3WR_6 is amino). The reduction reaction is carried out in a solvent of 3W20 times the weight of the reactant at 20W60°C for 0.5W30hr. The resultant amino compound is epimerized, when needed, to increase the content of isomer A.

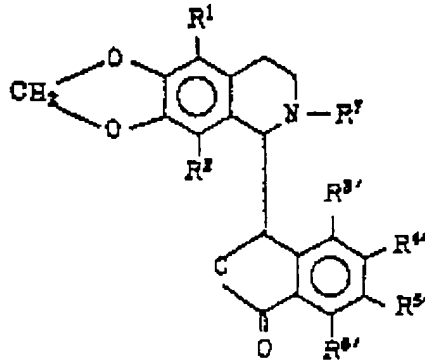
COPYRIGHT: (C)1986,JPO&Japio



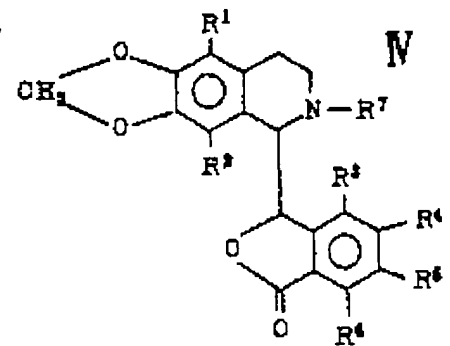
I



II



III



IV